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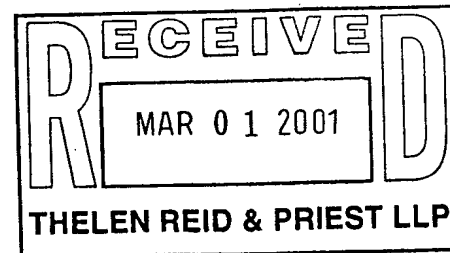
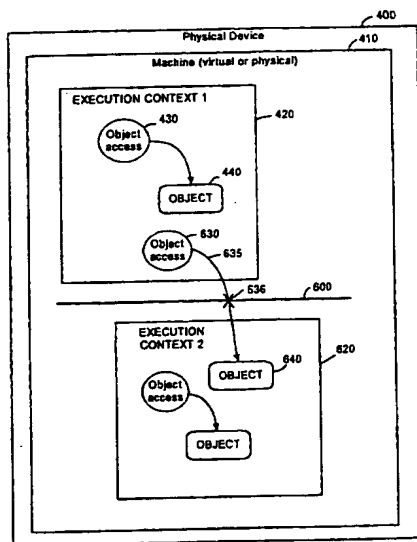
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(54) Title: TECHNIQUES FOR PERMITTING ACCESS ACROSS A CONTEXT BARRIER IN A SMALL FOOTPRINT DEVICE USING GLOBAL DATA STRUCTURES



(57) Abstract: A small footprint device can securely run multiple programs from unrelated vendors by the inclusion of a context barrier isolating the execution of the programs. The context barrier performs security checks to see that principal and object are within the same namespace or memory space or to see that a requested action is authorized for an object to be operated upon. Each program or set of programs runs in a separate context. Access from one program to another program across the context barrier can be achieved under controlled circumstances by using a global data structure.

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# INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US 00/01234

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G06F9/46 G06F1/00 G07F7/10

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G06F G07F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, IBM-TDB

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>WO 98 19237 A (SCHLUMBERGER TECHNOLOGIES INC) 7 May 1998 (1998-05-07)  abstract; figures 1,2,12-16,19,20  page 1, line 20 - last line  page 6, line 21 -page 8, line 19  page 9, line 20 -page 10, line 8  page 12, line 8 - line 16  page 23, line 13 -page 26, line 2  page 28, line 16 - line 33  page 31, line 33 -page 33, line 16  page 35, line 8 -page 36, line 5  page 51 -page 52</p> <p style="text-align: center;">--- -/--</p>	1-21



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	SUN MICROSYSTEMS, INC.: "Java Card Runtime Environment (JCRE) 2.1 Specification - Draft 2" 14 December 1998 (1998-12-14) , PALO ALTO, US XP002138793 cited in the application page 6-2, -page 6-10 ----	1-21
A	GONG L ET AL: "Going beyond the sandbox: an overview of the new security architecture in the JavaDevelopment Kit 1.2" PROCEEDINGS OF THE USENIX SYMPOSIUM ON INTERNET TECHNOLOGIES AND SYSTEMS, 8 December 1997 (1997-12-08), XP002100907 page 104, left-hand column, line 16 -page 107, left-hand column, last line ----	1-21
A	US 5 204 897 A (WYMAN ROBERT M) 20 April 1993 (1993-04-20) figures 32,35 column 38, line 41 - line 55 column 40, line 1 - line 41 ----	7
A	N. ISLAM ET AL: "A Flexible Security Model for Using Internet Content" IBM THOMAS J.WATSON RESEARCH CENTER PAPERS, 'Online! 28 June 1997 (1997-06-28), XP002138803 Retrieved from the Internet: <URL:http://www.ibm.com/java/education/flexsecurity/> 'retrieved on 2000-05-25! abstract; figure 2 page 5, line 32 - line 54 -----	15-21

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/01234

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9819237 A	07-05-1998	AU 722463 B AU 4911897 A EP 0932865 A	03-08-2000 22-05-1998 04-08-1999
US 5204897 A	20-04-1993	AU 659652 B AU 2015892 A DE 69228350 D DE 69228350 T EP 0538453 A IL 102114 A IL 116271 A NZ 243277 A WO 9220022 A	25-05-1995 21-12-1992 18-03-1999 23-09-1999 28-04-1993 14-05-1996 12-03-1999 26-10-1995 12-11-1992

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